

SOME FURTHER OBSERVATIONS ON THE SCALE INSECTS (COCCIDÆ) OF THE UGANDA PROTECTORATE.

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MR. C. C. GOWDEY, the Government Entomologist of Uganda, is to be congratulated upon the number of interesting forms which he has forwarded to this country for identification from time to time. Many of the species, if not all, are of economic importance, and, judging by their numbers, must have sorely taxed the plants upon which they were found.

One of the most remarkable facts connected with the Coccids from the Uganda Protectorate is that a very large percentage of them has been parasitized by small Chalcidids. I have never before seen so many individuals destroyed by these parasites from any other part of the world. A study of the bionomics of these insects would no doubt prove of great interest from an economic as well as from a biological standpoint; and it is to be hoped that it will be possible in the future to give some attention to this interesting group of the Hymenoptera.

Inglisia conchiformis, sp. n.

Test of adult female (fig. 1) shaped like a miniature bivalve shell, standing erect upon the branch of its food-plant, with the hinge uppermost and its lower edges resting upon a pad of white secretion, which often projects beyond the test, forming a narrow flocculent fringe; surface of test with distinct vertical striæ; pale horn-colour, with confluent streaks of golden-yellow and brown-yellow.

Length 5-6.5 mm.; width 1.5-2.5 mm.; height 2.5-3.5 mm.

Female, adult.—Very elongate; margin with a narrow band of stout conical spines, consisting of three or four irregular rows in front and behind, but merging into two at the sides. Stigmatic areas with a few additional spines between which are a number of circular spinnerets. Antennæ and legs short, the former of seven segments. *Tarsi with a deep pseudo-articulation*.

Length 5 mm. (average).

Puparium of male.—Opaque glassy-white, surface somewhat scaly; margin with an irregular fringe of stout glassy-white filaments. Shape somewhat like the puparia of the genus *Lecanium*, but the so-called "coronet" is not clearly defined.

Larva ellipsoidal, but narrowing posteriorly. Antennæ relatively short, being scarcely half the length of the legs; segments six in number, the third longest and stoutest. Legs very long, normal. Anal lobes large

each bearing one very long hair, almost equal in length to the body, and 3-4 short hairs of varying length. Margin with a regular series of conical spines, widely separated. Stigmatic areas each with a single curved *spine of great length*.

This very singular coccid was first discovered by Dr. Slater Jackson in the Jardin Botanique, Konakry, West Africa, on *Averrhoa carambola*, L.,

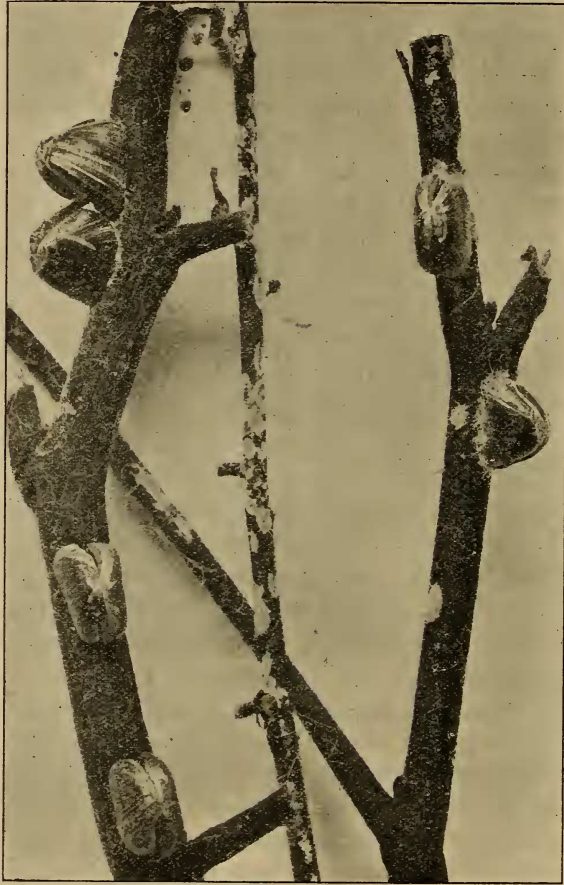


Fig. 1.—*Inglisia conchiformis*, Newst. ; adult females. $\times 2$.

November to January 1907-8, and said by him to be "abundant on the terminal branches." Soon after the material came into my hands I found that the insect was undescribed, and I then gave it the manuscript name *Onicococcus conchiformis* (gen. et sp. n.) ; specimens were forwarded to the British Museum and to other collections under this name, but no description has hitherto been given by me. Mr. E. E. Green, who has

recently received specimens from the Uganda Protectorate (C. C. Gowdey), informs me that this insect is undoubtedly a species of *Inglisia*.

The examples which were forwarded recently by Mr. C. C. Gowdey were taken by him in the Royal Botanical Gardens, Entebbe, on *Harogana madagascariensis*, 7.iv.10 (no. 1432).

The examples of the male puparia had nearly all been parasitized; and a large percentage of the females had been destroyed by the larvæ of a small Noctuid moth, which Sir George Hampson has identified as *Eublemma scitula*, Ramb. (Subfam. ERASTRINÆ), an example of which had hatched out during transit. This moth has a very wide range, occurring in the south of Europe, in India and throughout Africa. In Cape Colony, Mr. C. P. Lounsbury has bred it from *Lecanium hesperidum*, L.

***Lecanium mori*, var. *somereni*, nov.**

Resembles *Lecanium mori*, Signoret, in shape and colour; but has a brightly polished surface and the margin is turned outwards, forming a distinct and strongly defined carina all round the body of the insect. It also differs from typical *L. mori* in having eight segments to the antennæ; a character which is quite constant in all the examples prepared for microscopical examination. Marginal spines slightly dilated and frayed at the ends. Anal plates short, length slightly greater than the width. Derm glands slightly larger and more numerous at the thickened margin than elsewhere.

Length 3.50–4 mm.; width 2–2.50 mm.

The specimens sent by Mr. Gowdey (no. 1290) were found on mulberry (*Morus* sp.), at Kyetume, Uganda (*Dr. R. Van Someren*, 28.xi.10).

***Lecanium hesperidum* (L.).**

Abundant on the leaves, chiefly along the midrib, of the orange; Bakoba, German East Africa (C. C. Gowdey, no. 1327). No date given.

This is a common pest of the orange in many parts of the world.

***Lecanium viride*, Green. (The Green Scale Bug.)**

Dried specimens of this insect are practically inseparable from *Lecanium hesperidum* (L.); but the morphological characters of these species differ in a marked degree. Mr. E. E. Green* gives a very interesting account of this pest. He says that "it has proved such a scourge in Ceylon, being practically responsible for the final abandonment of coffee cultivation over the greater part of the planting districts."

One of the most striking characters, as seen under a low power of the microscope, is the large ovate or rounded spots (derm cells), which are clearly distinct in well-stained preparations. In the African material these

* 'Coccidæ of Ceylon,' p. 200.

spots are arranged much more closely together than shown by Green in his excellent memoir; and it should be noted also that the "scattered arch of circular wax glands . . . enclosing the genital orifice," observed by Green in his type, is not traceable in the females from Uganda.

The leaves upon which the specimens were sent were unnamed, but they appear to be referable to the guava; Entebbe, Uganda, 25.xi.10 (*C. C. Gowdey*, no. 1430).

The var. *africanum*, Newstead, has been recorded from the West Coast of Africa; but this, so far, is the only recorded habitat for the typical form in Africa.

Lecanium sp.

Almost covering the leaves of Citronella Grass (*Andropogon* sp.). All the examples are females, and quite 98 per cent. of them had been destroyed by a Chalcidid parasite. No examples of the latter were present in the envelopes in which the Coccids were packed, so that it is evident that the parasites had escaped before the hosts were collected.

Ceroplastes singularis, sp. n.

Test of adult female hemispherical; thin and very hard; texture fairly smooth; dorsum with a faintly indicated plate, almost circular in outline, with indications also of three lateral plates; colour dirty ochreous.

Length 3 mm.; width 2.5 mm.

Female, adult.—Hemispherical; cephalic lobe moderately produced; stigmatic clefts shallow; caudal process rudimentary; derm thin and transparent, after maceration in caustic potash. Antennæ (fig. 2) of six segments with four stout hairs of varying length on the 2nd segment, a very unusual character. Legs normal. Mentum monomorous, with several (? 10) short stout spinose hairs. Marginal spines large: these are set closely together all round the margin; and on either side of this series are many slender spines and scattered spinnerets. Stigmatic spines, 15–20 in number, similar to those at the margin. Derm coarsely and faintly reticulated, each reticulation with a central pore.

Test of young adult female hemispherical; thin and glass-like but opaque; two lateral plates darker, immediately below each of these a *very broad* band of pure white wax marking the stigmatic areas.

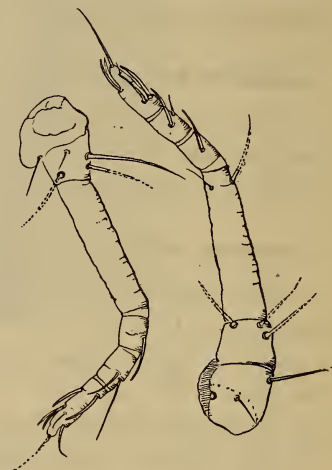


Fig. 2.—*Ceroplastes singularis*, Newst.; antennæ of adult female.

The example from which this diagnosis is drawn is about half the size of the old adult female test described above.

Test of the larva (fig. 3) formed of a more or less rounded mass of white flocculent matter.

Test or puparium of the male (fig. 4) ellipsoidal in outline ; with an elongate median patch or pad of densely felted white wax transversely divided in the centre in a large percentage of specimens ; lateral waxy appendages opaque white, forming a compact and contiguous series all round the margin,



Fig. 3.—*Ceroplastes singularis*, Newst.;
larvæ. $\times 2$.

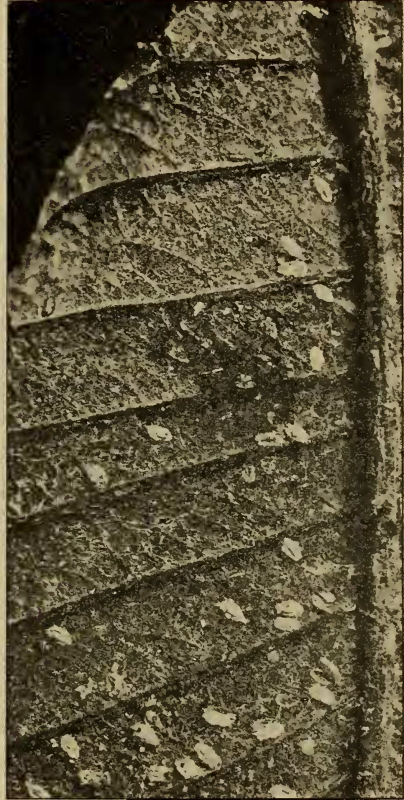


Fig. 4.—*Ceroplastes singularis*, Newst.;
male puparia. $\times 2$.

usually carrying patches of the flocculent matter secreted by the larva ; beneath this external covering is a thin, opaque white, glassy layer of secretory matter having a large central elongated raised area surrounded by a deep groove and concentric ridge from which the sides slope downwards to the margin. The whole surface of this glassy layer is strongly and evenly punctate ; and the anal lobes of the pronymph project beyond it relatively

for some considerable distance. The true character of the glassy portion can be seen only after carefully dissolving off the outer waxen layer with xylol.

Length 1.25–2.50 mm.

Male, second stage.—Ellipsoidal; margin with a series of rather widely separated, large spines, of which there are 16–17 on either side; besides these there is also one additional submarginal spine in each of the stigmatic areas. Antennæ of six segments, of which the third is about equal in length to the 4th, 5th and 6th together. Legs normal. Angles of posterior cleft each with two long hairs.

On guava (*Psidium guava*, Radd.); Entebbe, Uganda Protectorate, 22.xi.10 (*C. C. Gowdey*, no. 1275).

This species is remarkable for the very singular character of the male puparium, which in its external form bears a striking resemblance to small examples of *Dactylopius nipæ*, Mask.; so much so, that they were mistaken for examples of this or an allied species, before the microscopical preparations were made. The male puparium of the, hitherto, only other known species of *Ceroplastes** is of the typical Lecaniid form, and without any flocculent or opaque waxy appendages† of any kind. It may be necessary at some future date to raise *C. singularis* to subgeneric rank, though in the light of our present knowledge, and in the absence of a larger series of the adult females, such a course would at the present moment be inadvisable.

Another remarkable feature regarding the male puparia is that they occurred in enormous numbers on the under surface of the leaves of the food-plant, presenting a very striking appearance. It is interesting to add also that a very large percentage were parasitized by a small Chalcidid insect, but unfortunately pupæ only were found. A few of the puparia also contained pupæ of the *Ceroplastes*, but these did not afford any morphological characters of note.

Chavannes‡ has described a *Ceroplastes* from *Psidium* sp.; but, so far as one can gather, this species is distinguishable by the marked character of the waxen test or puparium of the female. The male or its puparium is not described.

A few examples of *Aspidiotus cyanophylli*, Sign., were found in association with *C. singularis*.

Ceroplastes ficus, sp. n.

Test of adult female more or less hemispherical, thin, semitransparent, hard and brittle, shaded with horn-coloured greys and browns; the large dorsal

* *Ceroplastes ceriferus*, Anderson, Newstead, Ind. Mus. Notes, iii. no. 5, p. 22.

† The male puparia of the *Ceroplastes*, no. 1326 (see p. 192), is of a similar character, but there is no flocculent matter present.

‡ *C. psidii*, Ann. Soc. Ent. France, (2) vi. p. 139 (1848).

area comparatively smooth, with distinct lines radiating from the central nucleus, the larger ones being widely separated and equidistant. Besides these there are also some faint concentric ones visible in some of the examples. Lateral plates narrowly rectangular, length much greater than width, outer angles produced and darker than the rest; caudal process triangular, with the angles rounded; anal valves nude, minute, and only visible under a rather strong magnification.

Length 6-6.25 mm.; width 5-5.25 mm.

Female adult (fig. 5, A) more or less hemispherical; margin with three

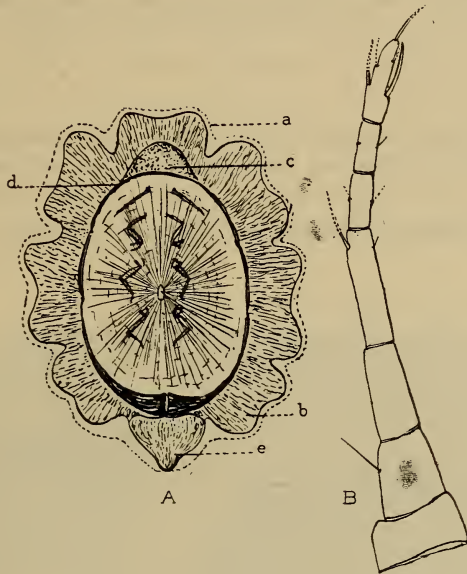


Fig. 5.—*Ceroplastes ficus*, Newst.

- A. Outline of adult female as seen by transmitted light, in xylol: *a*, extent of waxen test; *b*, the chitinous lobate margin; *c*, the cephalic lobe; *d*, the true margin of the venter; *e*, the caudal process. B. Antenna of adult female.

bilateral and one cephalic, broad, flat and faintly bituberculate projections; the tubercles widely separated and somewhat inconstant in size, some being faintly indicated, others very pronounced; caudal process short, width at base slightly greater than the length, apex suddenly attenuated. Derm thin and transparent, and of a pale horn-colour; tubercles and caudal process darker. Antennæ (fig. 5, B) of seven segments; third and fourth equal in length and longest; the last three segments with long slender spines. Stigmatic clefts very small and shallow; spines small and conical, about 27 in number; immediately within these is a large and very compact group of circular spinnerets numbering from 90-100 in all; these organs are

however very difficult to trace and so far have not been observed in the posterior clefts, owing to the opacity of the chitin at the margin. Measurements very slightly less than those of the test.

The singular outline is one of the most striking characters of this insect (fig. 5). It may be readily seen by placing examples in xylol, which quickly renders the very thin waxen test sufficiently transparent but does not, even after long immersion, dissolve it. The long fourth segment of the antennæ and also the compact group of spinnerets are unusual, and may assist in the determination of the species.

On Bark-Cloth (*Ficus* sp.) ; Bukoba, German East Africa, 4.iv.10 (*C. C. Gowdey*, no. 1328).

Ceroplastes ? sp. n.

Test of young female formed of rather hard, dirty, creamy white wax ; sides rounded, lateral plates obscure, but their positions are indicated by a small central depression, in many instances ; posterior half of the dorsum with a prominent hump suddenly truncate behind, in the centre of which is placed the anal process.

Length 3-3.5 mm. ; height 2.75-3 mm.

Female, young adult.—Elongate, widened posteriorly. Anal process rudimentary, surrounded by a disc-like patch of dark chitin. Antennæ of six segments, the third much the longest. Stigmatic clefts very shallow ; spines relatively large and conical ; they are continuous along the margin both between and beyond the stigmatic clefts, but do not extend to either the cephalic or posterior margin.

Length 2.5-3 mm.

This insect is in all probability an hitherto undescribed one ; but as the examples before me are immature, I do not feel justified in erecting a new name for it ; the wax, though presenting a hard exterior, is readily soluble in xylol, and differs in this respect from *Ceroplastes ficus*. Taking this fact into consideration, and the difference in the character of the antennæ, I have come to the conclusion that the specimens are not immature examples of *C. ficus*, though they were taken from the same kind of food-plant and at the same date. All the examples were parasitized ; and it is just possible therefore that the parasite may have caused some alteration in the form of the test, though this is very doubtful.

On Bark-Cloth (*Ficus* sp.) ; Bukoba, German East Africa, 4.iv.10 (*C. C. Gowdey*, no. 1329).

Ceroplastes ? sp. n.

Female, second larval stage.—Broadly ovate or almost subcircular, with three bilateral, white, waxen appendages, widely separated ; there are also three cephalic and three posterior processes, but these are minute and placed

closely together; median dorsal plate narrow and elongate. Integument between the waxen plates of various shades of horn-coloured brown, in the dried examples.

Male puparium elongate, with 13-14 white marginal appendages, the three anterior and the three posterior ones being much the smallest; median dorsal plate narrow and more or less irregularly divided transversely. These plates are attached to a glass-like layer which, when denuded of wax, is of the typical Lecaniid form.

Length 1.25 mm.

The striking similarity which these puparia bear to those of the second larval stage in the female of other known species, possibly accounts for the fact that they have hitherto been overlooked by students of this group of insects.

Judging by the morphological characters of the young larval females, I am of opinion that the male puparia are conspecific with the preceding species.

On Bark-Cloth (*Ficus* sp.); Bukoba, German East Africa, 4.iv.10 (*C. C. Gowley*, no. 1326).

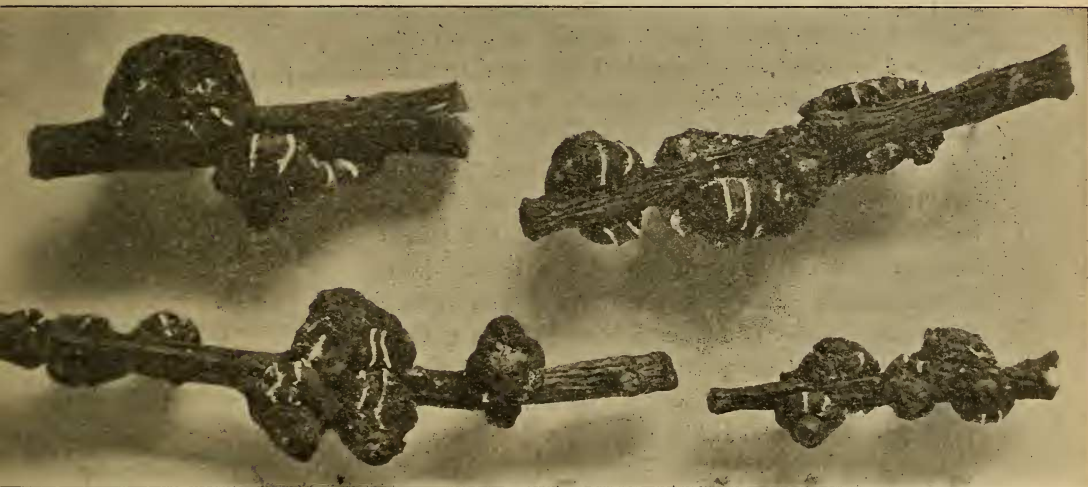


Fig. 6.—*Ceroplastes quadrilineatus*, Newst.; adult females (tests). $\times 2$.

Ceroplastes quadrilineatus, sp. n.

Test of adult female (fig. 6).—Dorsum with a pair of large, divergent, pyriform bodies, the narrowed portions of which meet together immediately over the anal orifice; these very prominent swellings are of a dull crimson colour with distinct and well defined, narrow, transverse, blackish bands; under a low magnification the banding has the appearance of striæ, so that

these very prominent portions of the test bear a striking resemblance to a pair of miniature shells, of the fossil genus *Gryphæa*; sides bulging and somewhat irregular in outline, colour sooty-crimson; stigmatic bands pure white, narrow, extending right across the broad bulging portion of the test, forming four conspicuous white lines (two on either side) against the dark portion of the wax. The wax immediately beneath the surface is white with a faint pinkish tinge; it contains a large percentage of water and is soft and readily injured by pressure.

Length 6 mm.; width 6 mm.; depth 5–7 mm.

Adult female more or less hemispherical; sides bulging over the margin; cephalic lobe strongly defined; margin deeply incised at the stigmatic areas; caudal process rudimentary, appearing as a minute tubercular swelling, surrounding which is a very large circular area of piceous chitin; the rest of the integument dull ochreous in colour, but shining and coarsely wrinkled. Antennæ (fig. 7) of six segments, the third much the longest, equaling the length of the last three segments together; there is a long, slender, lateral spine on each of the fourth and fifth segments; and three similar spines also on the terminal segment, one subapical and two towards the proximal end of the segment. Parastigmatic glands widely separated, and forming a broad band; in structure they are simple and resemble the circumgenital glands in the *DIASPINÆ*. Stigmatic spines very short and obconical; between these are a few (2–5) small spines. Ventral derm studded rather sparsely with spinnerets and minute spines, the former (fig. 7, *a*) have a distinct central septum which gives these organs in certain lights a figure of 8 shape.

Length 6 mm.; width 5 mm.

This is a very singular species, distinguishable chiefly by the curiously shaped test, which together with the rather singular coloration and the four conspicuous white stigmatic bands will serve at once to distinguish it from any of its allies. When crowded together so that the waxy tests become agglomerated, the insects, collectively, very closely resemble a colony of lac insects (*Tachardia lacca*), though the surface of the secretionary matter in the *Ceroplastes* presents a more uneven surface than that of the *Tachardia*.

On *Anona muricata*; Kyetume, near Kampala, Uganda, 24.xi.10 (*C. C. Gowdey*, no. 467). Also on Bark-Cloth (*Ficus* sp.); Ndege, Uganda, 22.iv.10 (*C. C. Gowdey*, no. 397).

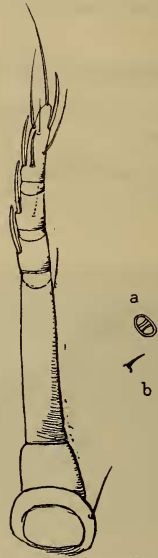


Fig. 7.—*Ceroplastes quadri-lineatus*, Newst.; antenna of female. *a*, spinneret; *b*, spine.

The larva of a small Lepidopterous insect had destroyed a large proportion of the females and their tests, and had formed their tunnels and tough silken cocoons amongst the cereous mass. No trace of either larvæ or pupæ was found.

Ceroplastes sp.

Many examples of the fixed larval stage of a species of *Ceroplastes*, resembling those of *C. floridensis*, have been received, thickly scattered over the upper surface of the leaves of the Guava. On the under surface of the same leaves were examples of *Aspidiotus cydoniæ*, Comstock (*C. C. Gowdey*, no. 1274).

Ceroplastes ? ceriferus, Anderson.

These are all immature females, the tests of which are badly damaged through careless packing. The young females when denuded of wax do not, however, present the well marked lateral tubercles so characteristic of this species in this and also the adult stage. It may be necessary, therefore, to give the Uganda forms specific rank ; but the character herein noted may not be constant. With so few examples before me, this matter must be left until a more extended series is procurable for study (*C. C. Gowdey*, no. 467).

Stictococcus dimorphus, Newstead.

A large series of this species was sent, but these also were destroyed by mould ; so that no further details are available regarding the morphology of this interesting insect.

Dactylopius ? sp. n.

The material is insufficient for diagnostic purposes ; but all the visible morphological characters point to this insect being an hitherto undescribed species.

On *Harogana madagascariensis* ; Entebbe, 7.iv.10 (*C. C. Gowdey*, no. 1433).

Chionaspis dentilobis, sp. n.

Female puparium white, very highly convex, sometimes strongly gibbose in front, and generally contorted by overcrowding ; but many examples are more or less mytiliform. Pellicles orange-red.

Length 2.75–3 mm.

Puparium of male straw-coloured or pale ochreous, anal portion paler, median keel more or less clearly defined. Pellicle bright orange.

Length 1.25 mm.

Female, adult.—Generally markedly attenuated or narrowed in front. Pygidium broadly rounded or semi-circular ; derm as soft and thin as that

of the rest of the body, with two broad bands of large dorsal pores corresponding to those on the free abdominal segments; anal orifice opposite the distal ends of the dorsal pores; between the former and the margin are five linear and two oval thickenings of the body-wall. Circumgenital glands absent. Margin of pygidium (fig. 8 *a*) with three pairs of lobes; median pair smallest and widely separated, edge faintly dentate near the centre; second pair bilobed, the inner lobule much the largest, *with a strong tooth-like projection* on the inner lateral margin, outer lobule somewhat angular in shape and irregularly and faintly dentate; third pair of lobes trilobed, the median lobule the largest, lateral lobules distinctly dentate. Squamæ long, stout, and simple; there is one between the median and second pair of lobes, and a pair (one dorsal, the other ventral) immediately anterior to the

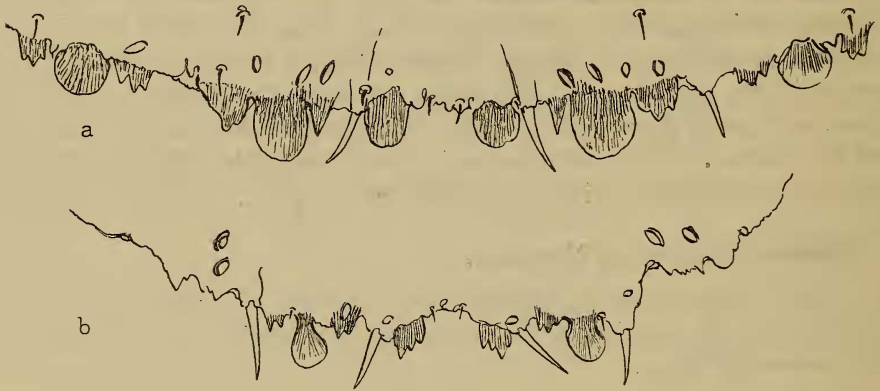


Fig. 8.—*Chionaspis dentilobis*, Newst.

- a.* Margin of pygidium of adult female.
b. Margin of pygidium of second-stage female.

second pair of lobes. Spines minute. Rudimentary antennæ with 3–4 strong spines, one of which is much stouter than the others.

Length 2–2.25 mm.

On the slender branches of an unknown shrub; Botanical Gardens, Entebbe, Uganda Protectorate, 18.xi.10 (*C. C. Gowdey*, no. 1270).

The females may be readily distinguished by the curious form of the pygidial lobes. Owing to the non-chitinated character, great difficulty has been experienced in getting satisfactory preparations for microscopical examination. With the younger forms this character is not present. The pygidial fringe of this stage is shown in the accompanying figure and may assist in the future identification of this insect (fig. 8 *b*).

Chionaspis substriata, sp. n.

Puparium of female satiny-white ; transversely striate, the striæ equidistant and well defined ; sides sub-parallel behind the pellicles ; highly convex in the mid region, posterior margin flattened and generally produced. Pellicles yellow ; the posterior margin of the 2nd generally nude and sometimes tinged with pale orange-yellow.

Length 1·50–2 mm.

Female, adult.—Cephalic region much narrowed ; pygidium broadly rounded ; *derm soft and as flexible as that of the rest of the body*, line of demarcation between free abdominal segments not clearly defined. *Proboscis placed quite close to the anterior margin*. Margin of pygidium (fig. 9) with three pairs of *very short serrated lobes* ; the second pair duplex ; all the lobes are more or less rudimentary, and, owing to the flaccid nature of the body-wall which has a constant tendency to fold or project, the lobes in a large percentage of specimens are rendered either perfectly obsolete

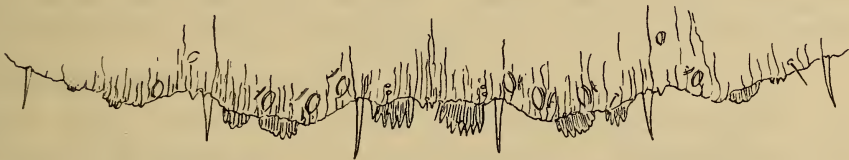


Fig. 9.—*Chionaspis substriata*, Newst. ; margin of pygidium of adu't female.

or appear only as minute and faintly serrated projections. Squamæ large and spine-like ; there are usually 3–4 on either side of the median lobes. Dorsal glands, with *very short subcutaneous tubes*, occur all along the margin, and there are a few similar ones indicating the articulations of the segments. *Circumgenital glands absent*.

Puparium of male * satiny white, with the median keel distinct on the posterior half only ; pellicle yellow.

On palms ; Botanic Gardens, Entebbe, Uganda Protectorate, 29.iii.09 (C. C. Gowdey, no. 304).

The distinguishing features of this well marked species are the serrated lobes and the forward position of the proboscis. In the sculpturing of the female puparium this species very closely resembles *Chionaspis striata* ; but the female of the latter species has grouped circumgenital glands, the puparium is thinner and more glossy, and the lobes are not serrated.

* The male puparia are for the most part incomplete, and in this condition very easily pass for those of *Mytilaspis*.

? *Diaspis chionaspiformis*, Green, MS., sp. n.

Female puparium creamy white : form like that of a typical *Chionaspis*. Pellicles dusky reddish yellow.

Length averaging 1.75 mm.

Male puparium apparently non-carinated, white ; forming dense masses with innumerable threads of white flocculent secretion between them, somewhat like the colonies of the male puparia of *Diaspis boisduvalii*, and they are so arranged that they project almost at right angles to the branch.

Female, adult, with the cephalo-thoracic region attenuated. Rudimentary antennæ with two long, curved, spines. Anterior stigmata with 3-4 parastigmatic glands. Circumgenital glands in five groups. Formula of two examples :—

6		8	
23	25	25	28
30	28	36	29

Pygidium (fig. 10) well defined. Median lobes bilobed and united, the lobules nearly equal in size ; 2nd and 3rd pairs angular and rudimentary.



Fig. 10.—? *Diaspis chionaspiformis*, Green ; margin of pygidium of adult female.

Squamæ spinose, 3-4 on either side of the median lobes. Median pair of spines stouter than those on other parts of the pygidium. Anal orifice placed near the centre of the circumgenital glands. Dorsal pores numerous on all the segments, especially so in the three thoracic ones.

On an unknown plant ; Botanical Gardens, Entebbe, Uganda Protectorate, 18.xi.10 (*C. C. Gowdey*, no. 1271).

Easily distinguished by the united median lobes and the *Chionaspis*-like form of the female puparium. It is an aberrant form and may subsequently be placed in a subgenus of *Chionaspis*.

***Aspidiotus cyanophylli*, Signoret.**

Abundant on palms and sparingly on Antignon ; Uganda, 24 & 25.xi.10 (*C. C. Gowdey*, no. xix.).

This insect does not appear to have been recorded previously from Africa,

though it is widely distributed elsewhere. It is a very general feeder, and among its numerous food-plants may be mentioned tea and cinchona ; it is also a pest to palms under cultivation in England.

***Aspidiotus cydoniæ*, Comstock.**

The examples received occur sparingly along the midrib and veins of the leaves of the Guava, in company with immature females of a species of *Ceroplastes*.

Entebbe, Uganda, 25.xi.10 (*C. C. Gowdey*, no. 1274).

***Ischnaspis filiformis*, Douglas. (The Black-thread Scale.)**

The very long and narrow puparia of this insect look like little bits of black thread attached to the midrib or veins of the leaf of the food-plant. It has not hitherto been recorded from Uganda, though it has occurred as a serious pest to coffee elsewhere in Central Africa.

On palms ; Entebbe, Uganda, 25.xi.10 (*C. C. Gowdey*, no. 1287).

APHIDIDÆ.

***Cerataphis lataniæ*, Boisduval.**

This curious plant-louse is known generally to horticulturists as the "Fringed Scale," otherwise as the "Horned Aphis." It bears a remarkable resemblance to a Coccid, and is often mistaken as such. The late Professor Westwood also mistook it for a Coccid and named it* *Asterolecanium orchidearum* ; though Buckton† makes no reference to the fact in his monograph.

It does not appear to have been hitherto recorded from Africa ; but it is a common pest in this country on plants cultivated under glass, affecting chiefly palms and orchids.

* 'Gardeners' Chronicle,' December 20th, 1879.

† Monograph Brit. Aphidæ, iv. p. 198.